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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,083	10/16/2003	Ibrahim Sendijarevic	TRPI 0103 PUSP	9091

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EXAMINER	
PATTERSON, MARC A	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/687,083	SENDIJAREVIC ET AL.	
	Examiner	Art Unit	
	Marc A. Patterson	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,8-11,13,14 and 26-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,8-11,13,14 and 26-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

NEW REJECTIONS

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 5 – 11, 13 – 14 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (U.S. Patent No. 3,415,364) in view of Helsemans et al (U.S. Patent No. 5,418,261) and Rosthauser (U.S. Patent No. 6,224,800 B1).

With regard to Claim 1, Schneider discloses a protective packaging for protecting an article (a object; column 3, lines 15 – 18; Figures 2 – 3) comprised of a foam structure (column 3, lines 15 – 18) conforming to a portion of article for protecting the article (column 7, lines 15 – 19); the foam comprises polyurethane foam (column 5, lines 12 – 16); Helsemans et al teaches a foam having a glass transition temperature of above room temperature (column 1, lines 19 – 21) and exhibits the shape memory property (column 1, lines 19 – 21) and therefore has a shape memory characteristic such that when it is deformed or compressed from an original shape above the glass transition temperature to produce a compressed shape and then cooled, it retains the compressed shape. However, the claimed aspect of the film having the property that when it is deformed or compressed from an original shape above the glass transition temperature to produce a compressed shape and then cooled, it retains the compressed shape is directed to an intended use of the invention, rather than a structural limitation, and is therefore given little

patentable weight; the structure taught by Helsemans et al is produced by reacting an isocyanate and a polyol (column 1, lines 50 – 55). Schneider fails to disclose a foam comprising a shape memory foam which is crosslinked.

Helsemans et al teach a polyurethane foam (column 1, lines 50 – 54) for packaging (column 4, lines 28 – 32) which is a shape memory foam (column 4, lines 9 – 10) and which is crosslinked (comprising a crosslinking agent; column 3, lines 36 – 37) for the purpose of obtaining a packaging that is lightweight (column 4, lines 28 – 30). One of ordinary skill in the art would therefore have recognized the advantage of providing for the polyurethane foam of Helsemans et al in Schneider, which comprises packaging, depending on the desired lighweightness of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a shape memory foam in Schneider in order to obtain a packaging that is lightweight as taught by Helsemans et al.

The foam disclosed by Helsemans et al comprises a isocyanate comprising a diphenylmethane diisocyanate (column 4, lines 5 – 7). Helsemans et al does not disclose that the foam is hydrophobic, but Rosthauser teaches that isocyanates comprising diphenylmethane diisocyanate are hydrophobic (column 2, lines 61 – 63). The foam taught by Helsemans et al si therefore partially hydrophobic, and is therefore hydrophobic.

With regard to Claim 3, the structure taught by Helsemans et al comprises a thermoset shape memory foam (comprising a crosslinking agent; column 3, line 36).

With regard to Claim 5, the structure taught by Helsemans et al comprises a polyether polyol (polyoxypropylene polyol; column 2, lines 48 – 52).

With regard to Claim 6, the polyol taught by Helsemans et al has an average functionality of between 2 and 4 (2.2; column 1, lines 58 – 62).

With regard to Claim 7, the isocyanate taught by Helsemans et al has an average functionality of between 2 and 3 (2.25; column 2, lines 20 – 22).

With regard to Claims 8, 11 and 14, the foam taught by Helsemans et al is produced by reacting the isocyanate with the polyol (column 1, lines 50 – 55) and a chain extender (column 3, lines 30 – 35), and is therefore compressible to less than 50% of the original volume.

With regard to Claim 9, the foam taught by Helsemans et al has an open cell structure (column 1, line 37).

With regard to Claim 10, Helsemans et al teaches a glass transition temperature that is usually higher than room temperature (column 1, lines 19 – 21), and therefore also discloses a glass transition temperature that is less than room temperature and therefore less than 21 degrees Celsius.

With regard to Claim 13, the foam disclosed by Schneider is encased in a film (contained in an impervious bag comprising polyethylene, therefore a film comprising polyethylene; column 2, lines 34 – 35; column 4, lines 53 – 61).

With regard to Claim 26, the foam taught by Helsemans et al has a glass transition temperature, as discussed above, and therefore has a temperature above which its structure is rigid and below which its structure is elastic.

3. Claims 27 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (U.S. Patent No. 3,415,364) in view of Helsemans et al (U.S. Patent No. 5,418,261) and

Rosthauser (U.S. Patent No. 6,224,800 B1) and further in view of Hayashi et al (U.S. Patent No. 5,049,591).

Schneider, Helsemans et al and Rosthauser disclose a shape memory foam comprising a polyether polyol reacted with an isocyanate as discussed above. With regard to Claims 27 – 28, Schneider, Helsemans et al and Rosthauser fail to disclose a shape memory foam comprising a polyester polyol reacted with an isocyanate.

Hayashi et al teaches a polyester polyol (1,4-butane glycol adipate; column 2, lines 65 – 68) for reaction with isocyanate (column 2, lines 50 – 59) in the making of a shape memory foam (column 2, lines 17 – 19) for the purpose of obtaining a foam which is easily deformed (column 1, lines 58 – 61). One of ordinary skill in the art would therefore have recognized the advantage of providing for the polyester polyol of Hayashi et al in Schneider, Helsemans et al and Rosthauser, which comprises a shape memory foam, depending on the ease of deformation of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for polyester polyol in Schneider, Helsemans et al and Rosthauser in order to obtain a foam which is easily deformed as taught by Hayashi et al.

4. Claims 29 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (U.S. Patent No. 3,415,364) in view of Helsemans et al (U.S. Patent No. 5,418,261) and Rosthauser (U.S. Patent No. 6,224,800 B1) and further in view of Chaffanjon et al (U.S. Patent No. 5,594,097).

Schneider, Helsemans et al and Rosthauser disclose a shape memory foam comprising a polyether polyol reacted with an isocyanate as discussed above. With regard to Claims 29 – 30, Schneider, Helsemans et al and Rosthauser fail to disclose a shape memory foam comprising a polycarbonate polyol reacted with an isocyanate.

Chaffanjon et al teaches the interchangeable use of polyether polyol and polycarbonate polyol (column 5, lines 44 – 47) for reaction with isocyanate (column 5, lines 35 – 43) in the making of a shape memory foam (a foam which exhibits substantial shape recovery after deformation; column 3, lines 13 – 15) for the purpose of obtaining a foam which has good processing properties (column 2, lines 1 – 4). One of ordinary skill in the art would therefore have recognized the advantage of providing for the polycarbonate polyol of Chaffanjon et al in Schneider, Helsemans et al and Rosthauser, which comprises a shape memory foam, depending on the desired processing properties of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for polycarbonate polyol in Schneider, Helsemans et al and Rosthauser in order to obtain a foam which has good processing properties as taught by Chaffanjon et al.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marc Patterson 6/12/06
Marc A. Patterson, PhD.
Primary Examiner
Art Unit 1772